BY ORDER OF THE COMMANDER

STRATEGIC COMMAND DIRECTIVE (SD) 714-2

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Communications and Electronics

SATELLITE COMMUNICATION (SATCOM) SYSTEM EXPERT (SSE) RESPONSIBILITIES

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This SD designates Consolidated SSEs (C-SSE) and system SSEs. It defines their responsibilities to support the Commander, United States Strategic Command's (CDRUSSTRATCOM), responsibilities as the SATCOM Operational Manager (SOM). It designates SSEs who are the engineering, operational, and technical expertise focal points for their designated satellite system(s). SSEs are required to collaborate with other SSEs in the execution of this SD. This SD applies to the United States Strategic Command (USSTRATCOM) headquarters elements, USSTRATCOM Service and functional components, Joint Task Forces (JTF), other assigned organizations, and organizations supporting USSTRATCOM-assigned missions. A glossary of references and supporting information is at **Attachment 1**.

1. General. The Unified Command Plan (UCP) assigns Combatant Command (COCOM) authority for all space systems (including SATCOM systems) to the CDRUSSTRATCOM. The Commander's authorities for SATCOM systems are further defined in CJCSI 6250.01B, *Satellite Communications*. CJCSI 6250.01B establishes an integrated approach to SATCOM system operational management and assigns responsibilities for system-level technical support and operational management. CJCSI 6250.01B designates the CDRUSSTRATCOM, as the SOM and assigns the authority to designate SSEs.

2. Organizational Relationships. CDRUSSTRATCOM, as the Department of Defense (DoD) SOM, provides centralized management, planning, advocacy, synchronization, integration, and coordination of DoD global SATCOM supporting Joint Staff, Unified Combatant Commands (UCC), Services, Agencies, other Federal organizations, and International Partners. USSTRATCOM oversees global SATCOM current resource adjudication, allocation, information assurance, optimization, maintenance, protection and operational employment guidance and strategies; coordinates schedule, launch, deployment, and transition strategies for SATCOM constellation replenishment; designates SSEs to serve as Subject Matter Experts (SME) of assigned systems; and represents SATCOM operational interests in International, National, and DoD forums.

2.1. The CDRUSSTRATCOM has delegated day-to-day execution authority for current SOM operations to the SATCOM Operations Division (USSTRATCOM/J66), SATCOM Information Assurance activities are vested in the Information Assurance Division (USSTRATCOM/J67), and future SOM activities to the Intelligence, Surveillance, and Reconnaissance (ISR) and Space Division (USSTRATCOM/J84). There is a USSTRATCOM staff level SOM assigned to each active or planned SATCOM system. The C-SSE and system SSEs support the USSTRATCOM SOMs. C-SSEs and system SSEs are designated in **Attachment 2**.

2.2. The SOM may periodically convene ad hoc forums to address specific technical and operational issues. Recognizing that each System SSE has its own unique area of expertise, the SOM will logically task the most relevant component or DoD agency to lead these ad hoc forums when they are deemed necessary. These forums will be comprised of SSEs and stakeholders whose participation is needed to ensure seamless integration between system segments and to resolve operational issues.

2.3. CDRUSSTRATCOM exercises COCOM over Service component SSEs. Non-component SSEs provide direct support to the SOM in accordance with (IAW) established support agreements (Memorandum of Agreement or Understanding). There is a mutual support relationship among the C-SSEs and System SSEs, the JTF-Global Network Operations Global SATCOM Support Center (JTF-GNO GSSC), the Regional SATCOM Support Centers (RSSC), and the Satellite Command and Control Centers (SC2C). Direct Liaison Authorized (DIRLAUTH) is given to the SSEs for coordination and planning with Combatant Commands, Services, and Agencies (CC/S/A).

3. Functional Relationships. The DoD SATCOM operational environment is complex. DoD SATCOM supports the full spectrum of DoD operations from peacekeeping and nation building to global nuclear conflict, as well as current and evolving tactical to strategic strategies. DoD SATCOM provides capabilities in Ultra High Frequency (UHF), Super High Frequency (SHF), Extremely High Frequency (EHF) in both military and commercially available assigned spectrums. DoD SATCOM also depends on a continuously evolving mix of legacy systems and newly deployed systems. These systems are constructed on technologies more than a decade apart. Integrated management and operational execution of these systems is procedurally and organizationally difficult. In this complex and dynamic support environment, technical and operational issues often affect more than one system. In every operation the DoD has conducted over the last 2 decades, more than one SATCOM system has been required to meet communications support requirements. In that context, the net-centric and network operations concepts that are the planned underpinnings of future operations are inherently dependent on a fully integrated approach to SATCOM operations.

3.1. C-SSEs. The USSTRATCOM SOM cannot meet this challenge without an integrated management approach that combines the efforts of associated SSEs and provides recommendations to the SOM in a fully integrated and analyzed process. C-SSEs for Wideband, Narrowband, Protected, and Commercial are designated to coordinate and integrate community of interest and cross-system inputs for associated system SSEs. C-SSEs, with the support of the system SSEs, provide an integrated SATCOM management framework supporting SOM efforts to deconflict, assess, analyze, and integrate SATCOM information, status, configurations, synchronization, sustainment issues, deployment issues, and anomalies.

3.2. System SSEs. System SSEs maintain expert knowledge of their assigned satellite system(s). The system SSEs provide technical, operational, and engineering support to the Joint Staff, SOM, JTF-GNO, SATCOM Support Centers (SSC), SC2Cs, C-SSEs, and other system SSEs. SSEs may also be tasked by the SOM to support other commands and agencies as required. SSEs must be prepared to respond to operational emergency requests on a 24 hour-a-day basis. The SOM will task non-component system SSEs directly for required support. The assigned C-SSE will integrate non-component SSE's input into an integrated product for SOM use.

4. Responsibilities.

4.1. C-SSEs. C-SSEs must cooperatively manage assigned systems to ensure standardized, high quality, integrated SATCOM products and services are provided to customers. C-SSEs are tasked to establish management structures that will enable seamless integration between system segments and to resolve operational issues. C-SSE specific responsibilities include, but are not limited to:

4.1.1. Lead appropriate periodic forums to exchange information, discuss and resolve issues, and provide continuity of operations. These forums will be comprised of the SOM, system SSEs, and other stakeholders whose participation is necessary to ensure a community of interest wide coordination of activities. These forums will be used to coordinate and integrate system SSE responsibilities into the larger integrated framework.

4.1.2. Consolidate a quarterly health assessment report provided by the system SSEs. Support formulating the December consolidated assessment provided to the Joint Staff and Military Communications and Electronics Board (MCEB).

4.1.3. Consolidate annual operational assessments.

4.1.4. Consolidate operational constellation replenishment strategy and risk mitigation plan.

4.1.5. Act as the primary focal point for all operational issues concerning their respective system(s).

4.1.6. Coordinate Integrated Information Technology Security (ITSEC) processes and products to include: assistance in the development of System Security Authorization Agreements (SSAA), resolution of issues between SSAAs when crossing system boundaries, and integrating briefings to Designated Approving Authorities (DAA) when more than one system is involved.

4.1.7. Provide cross-system requirements analysis, coordination, and course of action development and make recommendations for operational policy and procedure modifications.

4.2. System SSEs. System SSEs have detailed knowledge of their assigned satellite system and a general knowledge of all SATCOM systems. SSEs through the designated C-SSE, provide technical, operational, and engineering support to the SOM, Electromagnetic Interference (EMI) managers, future SATCOM management activities, USSTRATCOM components, UCCs, Services, and Agencies. SSE technical, operational, and engineering support will be provided in the areas outlined below as applicable based on individual systems' unique characteristics. System SSE specific responsibilities include, but are not limited to:

4.2.1. Support to the SOM and C-SSE. SSEs assist in developing respective SATCOM community management standards, guidance, and compliant policies and procedures for their SATCOM system.

4.2.1.1. Provide a 24/7 emergency contact for their respective system or systems.

4.2.1.2. Lead the Concept of Operations (CONOPS) development for new or upgraded SATCOM systems.

4.2.1.3. Support the development of USSTRATCOM Operational Capability (OPSCAP) and System Capability (SYSCAP) performance measures.

4.2.1.4. Submit a system health assessment at least quarterly, with appropriate recommendations, evaluating the space and control segments for operational capability to support planned DoD operations and strategies.

4.2.1.5. Provide an annual operational assessment, with appropriate recommendations, evaluating the space and control segments. This assessment will clearly indicate the system's communications capability to meet normal peacetime and surge requirements associated with major Operations Plans. This operational assessment should consider the systems capability to provide both focused and surge capabilities to support planned operations.

4.2.1.6. Provide technical assistance in developing the annual operational constellation replenishment strategy, identifying shortfalls and providing risk mitigation options.

4.2.1.7. Provide technical assistance and recommendations on international SATCOM exchanges, International Telecommunications Union (ITU) registrations and negotiations, Host Nation Approvals (HNA), landing rights, and other issues.

4.2.1.8. Support the Joint SATCOM Panel (JSP) by conducting technical assessments of SATCOM Database (SDB) requirements.

4.2.1.9. Assist their DAA to ensure life-cycle security and risk management practices are implemented for their respective SATCOM systems. The DAA responsibility for SATCOM planning and control systems will normally reside in the DoD Agency or USSTRATCOM Component designated as the system SSE. In accordance with DoDD 8581.1E, *Information Assurance (IA) Policy for Space Systems Used by the Department of Defense*, this assignment will be coordinated with the Chairman, Joint Chief of Staff, the system's Milestone Decision Authority, and Heads of DoD components having an operational interest.

4.2.2. General SATCOM Operations and Sustainment Support.

4.2.2.1. Assess current operations and plans and provide recommendations.

4.2.2.2. System performance monitoring, trending, and problem resolution, to include:

4.2.2.2.1. Options for anomaly evaluation and the development of resolutions.

4.2.2.2.2. Determine the levels of information assurance (IA) necessary to protect the operations and assets of their assigned systems and periodically test and exercise IA-related procedures, processes, products, services, measures, and techniques. Of particular importance is EMI identification, analysis, assistance, and resolution and other measures that deter or defeat unauthorized activity (e.g., computer network attack and computer network exploitation and minimize damage from such activities).

4.2.2.2.3. Collect, maintain, and evaluate trend data to identify operational deficiencies and provide recommendations.

4.2.2.3. Provide apportionment and allocation plan development assistance.

4.2.2.4. Advocate the development of the planning management, and control tools necessary for the SSEs, SSCs, SC2Cs, communications planners, users, and the SOM to perform their assigned tasks and functions.

4.2.2.5. Perform configuration management oversight functions for the space, control, and fixed earth terminal segments.

4.2.2.6. Develop and analyze constellation deployment plan options including providing technical guidance as required for initial positioning and repositioning of all SATCOM satellites.

4.2.2.7. Provide satellite restoral and risk mitigation planning.

4.2.2.8. Provide system (space, terminal, and control segments), network, operations, and communications planning support (e.g., allocations, trade-off options, service configuration).

4.2.2.9. Ensure web-based information management tools are updated with appropriate system-related documentation and information.

4.2.2.10. Support and participate in war-games and exercises.

4.2.3. New/Upgraded Systems Planning and Integration:

4.2.3.1. Support development of requirements and standards documents, to include Capstone Requirements Documents (CRD), Initial Capabilities Documents (ICD), Capabilities Development Documents (CDD), Capabilities Production Documents (CPD), CONOPS, Analysis of Alternatives (AoA), and Military Standards (MIL-STD).

4.2.3.2. Develop transition and implementation plans for space, terminal, and control segments.

4.2.3.3. Develop Tactics, Techniques, and Procedures (TTP) for space, terminal, and control segments, to include System Utilization Plans (SUP) and Cutover Plan. SSEs will develop SUPs and Cutover Plans corresponding to each assigned satellite.

4.2.3.4. Advocate Global Information Grid (GIG) Network Operations (NETOPS) integration support to include technical assistance with the development of system interfaces to provide consistent management and visibility of a Common Operational Picture.

4.2.3.5. Direct satellite and control segment testing to determine selected operational performance and characterization parameters, as required (e.g., on-orbit performance and characterization testing, control system assessments). Additionally, SSEs, in conjunction with and in coordination with appropriate terminal testing organizations, will certify a terminal's GIG compliance to the System Engineer for SATCOM (SES) IAW CJCSI 6250.01B.

4.2.4. Material Procurement and Program Manager Assistance:

4.2.4.1. Participate in space, control, and terminal segment operational requirements development and implementation.

4.2.4.2. Participate in or direct space, control, and terminal segment tests and evaluations, as required.

4.2.4.3. Participate in space, control, and terminal segment systems integration and synchronization.

4.2.4.4. Facilitate operational synchronization to support new equipment fielding and upgrades.

4.2.5. Requirements Advocacy Architecture Development:

4.2.5.1. Advocate Planning Programming Budgeting and Execution (PPBE) actions and Program Budget Decisions.

4.2.5.2. Advocate operational aspects identified in requirements and acquisition documents, to include CRDs, ICDs, CDDs, CPDs, MIL-STDs, CONOPS, and AoAs related to SATCOM or supporting systems.

4.2.5.3. Advocate the procurement, development, integration, and sustainment of a common near real-time capability that will provide constellation and satellite system status, performance, bandwidth allocation, and user assignment.

4.2.5.4. Support the Chairman's Program Assessment/Review (CPA/CPR) processes and Services' Program Objective Memorandum (POM) assessments.

4.2.5.5. Provide Integrated Priority Lists recommendations.

4.2.5.6. Support development of current and future architectures.

4.2.5.7. Support Functional Capabilities Boards, Joint Capabilities Boards, and Joint Requirements Oversight Council.

4.2.6. SATCOM Support Centers. The SSCs provide the operational interface, technical expertise, and system status required by planners, users, and decision-makers throughout the SATCOM community. SSEs will:

4.2.6.1. Provide USSTRATCOM'S JTF GNO GSSC and RSSCs with appropriate expertise to assist CC/S/A, and other United States (U.S.) Government and non U.S. Government entities.

4.2.6.2. Provide SME indoctrination and training as requested by the SSCs.

4.2.6.3. Develop and maintain operating instructions and procedures and technical and engineering support necessary for the effective operation, management, oversight, and maintenance of their assigned systems to support SSC operations.

4.2.6.4. Provide planning and management tools training and assistance for DoD, Joint, or Service provided applications and other software supporting SSC operations.

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Command Secretariat

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

CJCSI 6250.01B, *Satellite Communications*, 28 May 2004

DoDD 8581.1E, *Information Assurance (IA) Policy for Space Systems Used by the Department of Defense*, 21 Jun 2005

Abbreviations and Acronyms

AEHF—Advanced Extremely High Frequency

AFSATCOM—Air Force Satellite Communications

AFSPC—Air Force Space Command

AoA—Analysis of Alternatives

CC/S/A—Combatant Commands, Services, and Agencies

CDD—Capabilities Development Document

CDRUSSTRATCOM—Commander, USSTRATCOM

CJCSI—Chairman of the Joint Chiefs of Staff Instruction

CNNWC—Commander of the Naval Network War Command

COCOM—Combatant Command

CONOPS—Concept of Operations

CPD—Capability Production Document

CRD—Capstone Requirements Document

C-SSE—Consolidated SATCOM System Expert

DAA—Designated Approving Authority

DISA—Defense Information Systems Agency

DoD—Department of Defense

DSCS—Defense Satellite Communications System

EMI—Electromagnetic Interference

FEP—Fleet Satellite Communications Extremely High Frequency Package

FLTSAT—Fleet Satellite

GBS—Global Broadcast Service

GIG—Global Information Grid

IAW—in accordance with

ICD—Initial Capabilities Document

LES—Lincoln Experimental Satellite

JTF—Joint Task Force

JTF-GNO—JTF Global Network Operations

JTF-GNO GSSC—JTF Global Network Operations, Global SATCOM Support Center

MIL—STD Military Standard

RSSC—Regional SATCOM Support Center

SATCOM—Satellite Communications

SC2C—Satellite Command and Control Center

SCTS—Single Channel Transponder System

SD—Strategic Command Directive

SMDC/ARSTRAT—Space and Missile Defense Command/ U.S. Army Strategic Forces Command

SME—Subject Matter Expert

SOM—SATCOM Operational Manager

SSC—SATCOM Support Center (generic reference for GSSC/RSSC)

SSE—SATCOM System Expert

UCC—Unified Combatant Command

UCP—Unified Command Plan

UFO—Ultra High Frequency Follow-On

UFO/E—Ultra High Frequency/Extremely High Frequency

UFO/EE—Ultra High Frequency/Enhanced Extremely High Frequency

UHF—Ultra High Frequency

U.S.—United States

USSTRATCOM—United States Strategic Command

WGS—Wideband Gapfiller Satellite

Terms

Adjudication—Adjudication refers to the apportionment decision made when two or more users are contending for the same resources.

Advocate—A designated organization representing the interests of a specific group of SATCOM users. The advocate does not speak directly for the user but represents the user's interests at appropriate forums. Typical advocacy forums include, but are not limited to, requirements development, architecture development, concept of operations development, specialized training, and operational assessments.

Allocation—The operational real-time assignment of SATCOM communications payload resources to an approved user for use in activating a communications link or network.

Approval—Official sanction of an access requirement resulting in the assignment of a SATCOM allocation for a specific mission or purpose.

Apportionment—The designation of SATCOM resources to a combatant commander for deliberate planning purposes.

Combatant Command—Nontransferable command authority established by Title 10, United States Code, exercised only by commanders of unified or specified combatant commands unless otherwise directed by the President or the Secretary of Defense. COCOM cannot be delegated and is the authority of a combatant commander to perform those functions of command over assigned forces involving organizing and employing forces. Operational control is inherent in combatant command.

Components—Service components provide support to combatant commanders to accomplish their UCP-assigned missions.

Direct Support—A mission requiring a force to support another specific force and authorizing it to answer directly to the supported force's request for assistance.

Global Information Grid (GIG)—Globally interconnected, end-to-end set of information capabilities, associated processes, and personnel for collecting, processing, storing, disseminating, and managing information on demand to warfighters, policy makers, and support personnel.

Global SATCOM Support Center—The SATCOM Support Center responsible for global SATCOM situational awareness, resource management, and direct support to users not assigned to an RSSC. The GSSC is a 24/7 operation and performs SATCOM day-to-day responsibilities and operations. "Day-to-Day" is considered activities usually concluded in less than 72 hours.

International Partners—Allies, coalition participants, or other international organizations authorized to receive, provide, or exchange SATCOM resources with the DoD.

Mutual Support—Support units render each other against an enemy, because of their assigned tasks, their position relative to each other, and to the enemy, and their inherent capabilities.

Regional SATCOM Support Center—Regional multi-service organizations providing the day-to-day operational management of SATCOM resources in support of designated COCOMs, Services and Defense agencies and other users.

SATCOM System Expert—The component or designated organization responsible for providing the technical planning and functions in support of the operational management of a specific SATCOM constellation.

Satellite Command and Control Centers (SC2C)—The operations centers responsible for satellite platform, satellite payload, and/or satellite network control execution.

SATCOM Operational Manager—CDRUSSTRATCOM, directs operational management activities of DoD-owned and leased SATCOM resources to provide authorized users with global SATCOM support as operations and evolving requirements dictate.

System SATCOM Operational Manager—CDRUSSTRATCOM's representative for a specific SATCOM system. SATCOM Operational Managers provide oversight, integration, synchronization, and direction for designated SATCOM systems. USSTRATCOM has designated System Operational Managers for the Commercial, Narrowband, Protected, and Wideband satellite systems.

Terminal Segment—Comprises the actual equipment receiving and transmiting signals to the satellite. Terminals can vary from a hand-held or man-pack terminal to a large fixed installation.

Attachment 2

SSE ASSIGNMENTS

A2.1. SSE Assignments. Table A2.1. lists the SSE Assignments.

Table A2.1. SSE Assignments.

Consolidated Wideband (SMDC/ARSTRAT)	
	WGS (SMDC/ARSTRAT)
	DSCS (DISA)
	GBS (SMDC/ARSTRAT)
Consolidated Protected (AFSPC)	
	Milstar (AFSPC)
	AEHF (AFSPC)
	SCTS (AFSPC)
	AFSATCOM (AFSPC)
	Polar UHF (AFSPC)
	FEP (CNNWC)
	UFO/E (CNNWC)
	UFO/EE (CNNWC)
	Interim Polar (CNNWC)
Consolidated Narrowband (CNNWC)	
	UFO (CNNWC)
	FLTSAT (CNNWC)
	LES (AFSPC)
Consolidated Commercial (DISA)	
	Commercial C-band (DISA)
	Commercial X-band (DISA)
	Wideband Commercial Services (DISA)
	Commercial Mobile Satellite Services (DISA)
	Commercial Ku-band (DISA)
	Commercial Ka-band (DISA)